DOCUMENT RESUME

ED 319 764 TM 014 948

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TITLE Attributions or Retributions: Student Ratings and the Perceived Causes of Performance.
PUB DATE Apr 90
NOTE 69p.; Attachment B, 4 pages, contains scattered faint type.
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150) -- Tests/Evaluation Instruments (160)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS *Academic Achievement; *Attribution Theory; College Faculty; *College Students; Factor Analysis; Higher Education; *Influences; Locus of Control; *Performance; Predictor Variables; Psychological Characteristics; Questionnaires; Self Concept; *Self Evaluation (Individuals); Student Attitudes; Teacher Attitudes

ABSTRACT

The nature and extent of variations in student attributions about performance in their courses were studied, and the relationships between the attributions and responses on certain items of a student ratings questionnaire were determined. Causal or predictive relationships among these variables were also investigated. Data were collected using: (1) the Teacher-Course Evaluation Project questionnaire (TCEP) (described by M. Theall and others in 1987), with 47,732 respondents in 2,381 courses; (2) the Motivated Strategies for Learning Questionnaire of P. R. Pintrich et al. (1988); and (3) a self-evaluation questionnaire completed by faculty in from 352 to 1,200 classes. Attributions of performance were strongly related to expected grades as predicted by previous research and fluctuated with respect to other instructional variables in similar and predictable ways. Attributions of internally and externally oriented students were shown to be significantly different. Attributional (self-serving) bias was established, but found not to invalidate ratings. Attributions were shown to be effects and not causes. Faculty attributions also followed patterns suggested by previous literature. Ten tables presenting study data and six figures are included. Attachments provide the questionnaires and summaries of factor analyses of questionnaire data. A 52-item list of references is included. (SLD)

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ATTRIBUTIONS OR RETRIBUTIONS:

STUDENT RATINGS AND THE PERCEIVED CAUSES OF PERFORMANCE

Paper presented at the annual meeting of the

American Educational Research Association

Boston, Massachusetts

April, 1990

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Acknowledgement: The authors would like to thank Michele Anderson who assembled some of the literature used in the study, collected most of the MSLQ data, and reviewed MSLQ results in preparation for analysis.

TM014948

VARIABLES IN THE STUDY

LOCUS OF CONTROL:

INTERNAL VS. EXTERNAL

GENERAL EVALUATION ITEMS:

A = instructor

B = course

C = amount learned

D = organization

E = difficulty

STUDENT ITEMS:

F = content value

G = prior preparation

H = class level

I = G.P.A.

RESEARCH QUESTIONS:

1. Do attributional patterns vary as grades vary?
2. Are attributional patterns for the variables of interest the same as the basic, attribution X expected grade pattern?
3. Do attributions change across the levels of the variables of interest?
4. Are the ratings of "internals" and "externals" significantly different on the variables of interest?
5. Can attributional locus be predicted with the variables of interest?

ADDITIONAL QUESTIONS:

1. Are attributions "state" or "trait" variables?
2. What is the pattern of faculty attributions about student performance?

CONCLUSIONS:

1. Attributions are "effects", not "causes".
2. Attributions become more external as grades decrease.
3. Attributions are not affected by 'class level' or 'G.P.A.'.
4. Attributions become more external as ratings on other items "decrease".
5. Attributional patterns change across the levels of the variables.
6. Attributional results support the validity of student ratings.
7. Attributional results do not support the notion of "grade inflation".
8. Attributional locus can be predicted with moderate success.
9. Attributions are both 'state' and 'trait' variables.
10. Teacher attributions change as teacher estimates of class quality change.

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Attributions or retributions: student ratings and the perceived causes of performance.

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INTRODUCTION:

When students expect to succeed, to perform adequately, or to fail in academic settings, what are their feelings about the causes of their performance? Do they hold themselves, others, or events and situations responsible? Do they always attribute their performance to the same factors, or do their attributions change, and if so, under what conditions? Finally, if these students are evaluating teachers and courses, can these attributions unreasonably color their responses on ratings questionnaires?

The objectives of this study were: 1) to investigate the nature and extent of variations in student attributions about performance in their courses; 2) to assess the general relationships of attributions to responses on certain items of a student ratings questionnaire; and 3) to determine whether causal or predictive relationships exist among these variables.

The attributions were classified as internal or external with further distinction being made between stable and unstable attributions, while the items taken from the evaluation instrument included overall ratings of course, instructor, and amount learned; expected grade and grade-point-average; course difficulty; class level; interest in course content; expectations about the instructor; and course-related entry skills.

THEORETICAL PERSPECTIVE:

Attribution theory

The largest compendium of attribution research and theory is a three volume set of books edited by Harvey, Ickes, & Kidd, (1976; 1978; 1981). Interestingly, though the volumes contain material important to the development of theoretical positions about academic attributions in the higher education context (e.g. Shaver, 1981), there are no chapters specifically addressing the present issue. Lefcourt (1976) briefly discusses locus of control and academic performance (p. 69) but focuses on young learners concluding that "...the relationships between...locus of control and achievement behaviors are often riddled with inconsistent...results" (p. 71).

General attribution theory (Weiner, 1974; 1979: see Table 1 for an array of the Weiner attributional dimensions) suggests that in

instances of poor performance or failure, the locus of causal attributions will shift toward externality. The theory has been tested in higher education situations with respect to attributions, affect, and expectations (Forsyth & McMillan, 1981) and there has been some investigation of the relationship of causal attributions and expectancy of success (e.g., McMahan, 1974, whose samples included primary, secondary, and college students). But the focus in these studies was on expectancy and on attributions either to test Weiner's model (the former study) or to relate attributions and expectancies to ability, effort, task, and luck (the latter study). Marsh, Cairns, Relich, Barnes, & Debus (1984) reviewed the literature of attributions and self-concept, focusing on the "self-serving bias" of attributions, and conducted a study with 248 fifth graders as subjects. They proposed a "controversial" conclusion which suggested that attributions were more complex than would be expected by the basic models, and stated,

> ...dimensions of attribution that have been found in situational studies do not adequately represent dispositional dimensions....this conclusion...does not argue against the validity of...studies that support the Weiner model....It does, however, challenge the assumption that ...academic self-attributions can be adequately described by a single bi-polar dimension...or by the three bipolar dimensions proposed in the Weiner model. (p. 28)

However, in these studies, student ratings of teacher performance were not specifically considered.

Attributions and evaluations

Crittenden and Norr (1973) viewed student evaluation as a "special case of person perception" (p. 143) cautioning against ranking faculty on global appraisals because such ratings reflect the interaction of student values and teacher behaviors. Owen & Froman (1977) examined student's perception of locus of control and a discrepancy score of GPA minus expected grade in course on the dependent measure of 13 student ratings items. Regression analysis provided a significant interaction which partially supported the hypothesis that locus reduces the validity of student ratings instruments. The weakness of the study is the discrepancy score which, as measured, compares a specific expectation based on in-class and test performance against a standard (GPA) which is an 'average'. A better measure of discrepancy would be expected grade versus actual grade. Studies cited as evidence of the disconfirmed expectancy influence (e.g., Bausell & Magoon, 1972; Kennedy, 1975) were different in a major respect: they dealt with discrepancy between expected and actual grades rather than expected grade and GPA. Though significant, the results of Owen & Froman's regressions were not reported in terms of effect size. R or R-squared values were not provided for the three instances of incremental validity which achieved significance, while two interactions were reported with R values of .15 and .24. Owen & Froman suggest the results "...represent small but systematic

sources of 'noise' in the rating of teachers" (p.4). They then asked "If the results prove generalizable, should we discount external students' ratings of their teachers?" (p. 4)

Ames & Lau (1979), reported positive correlations between attributions and ratings (internal with high ratings and external with low), noting "impressive" attribution evidence for convergent and discriminant validity of ratings. Perry & Dickens (1984, 1987) investigated student-perceived control in the classroom while manipulating teacher expressiveness and nature of feedback. They reported that high non-contingent failure feedback reduced perceived control and that with expressive instruction, "...achievement deteriorated in accordance with the severity of students' uncontrollability." (p. 291) Coleman & Keller (1978), found that the interaction of predicted locus and achievement was the best predictor of students' self-reported progress and also cautioned against the use of self-reported progress ratings as a measure of course quality. Keller (1983) has also argued convincingly for the inclusion of motivational considerations such as expectancy for success and the development of internal student locus of control in the design of instruction. Scott (1981) reported positive correlations between locus and overall effectiveness of instruction noting locus to be context-specific, and stated that the coincidence or non-coincidence of perceived and actual loci can influence global appraisals. These studies have established locus as an important factor in relation to achievement as well as to understanding ratings.

Course grades and ratings

There is a large body of literature on the general relationship of grades to ratings. This literature is relevant because attributions are often considered with respect to expected or actual grades as measures of performance. For example, Bausell & Magoon (1972) reported grade-based biases which they described as possibly "retributive" while Howard & Maxwell (1980, 1982) found the positive correlation between grades and ratings to be a statement supporting ratings validity. They said,

> ...the relationship between grades and satisfaction might be viewed as an expected result of important causal relationships of other variables (student motivation and progress in the course) with satisfaction and grades rather than simply evidence of contamination due to grading leniency. (p. 175)

Expectancy violations and ratings

Another group of related studies examined whether the expectations of students about instructors or grades affect ratings (Bates, 1987; Feldman, Saletsky, Sullivan & Theiss, 1983; Gigliotti, 1987; Holmes, 1972; Kennedy, 1975; Painter & Granzin, 1972). The findings are somewhat mixed but generally indicate: 1) a relationship exists between expected grades and ratings; 2) that relationship is not sufficient to support

the theory that giving good grades guarantees high ratings (i.e., "grade-inflation"); 3) violation of expectations about instructors or grades can lower ratings with the particular finding that this effect is independent of the direction of the violation in grades; and 4) internal attributions are more often associated with positive outcomes (i.e., achievement) than are external attributions.

Attributions, expected grades, and student ratings

Theall (1986) reported preliminary analyses (crosstabulations) supporting the general theory that attributions become more external as expected grades decrease. This pattern of attributions across grades remained constant across five levels of grade-point-average and across class levels from freshman through graduate. However, when overall ratings of instructors were added into the analysis, only the rating pattern for "average" instructors was similar to the expected grade-by-attribution pattern. As instructor ratings increased or decreased, the pattern changed, particularly with students reporting low expected grades.

With the "best" instructors, the frequency of external attributions of 'D' and 'F' students was less than that in the sample (20.8% of all attributions were external). With the "worst" instructors, the frequency of 'D' and 'F' student external attributions was more than three times what was expected. Internal attributions were less affected, the greatest differences occurring with 'A' students. Their internal attributions were more frequent than expected with "best" instructors and less frequent than expected with "worst" instructors. All analyses were crosstabluations and all contingency table chi-square values were significant at extreme alpha levels (in part, an artifact of sample size). The results suggested that students attributions are affected by factors other than simple success or failure and that these attributions are sophisticated because they take into account, the quality of performance at both loci. Thus, in cases of failure, the inclination to 'blame' the instructor is tempered if the student perceives that the instructor did a good job, but reinforced if the perception is that the instructor did a poor job and is more culpable.

Gigliotti & Buchtel (1989) carefully examined attributional bias and course evaluations, collecting expected grade information at the beginning of the term, evaluation data at the end of the term, and actual grades from the registrar after the end of the term. They classified expected and actual grades to produce four student groups (Hi/Hi, Lo/Lo/, Hi/Lo, Lo/Hi) and assessed attributional locus with the evaluation instrument items (e.g., an item on how the course affected feelings about self) rather than specific items of a locus instrument. They also used demographic variables (age, sex, father's education level, etc.) for additional analysis. Their findings were as follows:

* grades can not be ruled out as a potential biasing factor with this effect apparent at the individual, rather than the class level;
* expected grade and expectancy violation are ruled out as biasing factors;
* instructor evaluations are minimally affected by the 'self-serving' bias reported in attribution research;
* there is very little evidence to support the 'grading leniency' hypothesis;
* demographic and situational variables have a slight biasing effect and may also affect attributions; and
* bias in student evaluations is small and acceptable if sufficient care is employed in the entire evaluation process.

Gigliotti and Buchtel (1989) also note that "From a practical standpoint, it appears that there may be problems in interpreting the course and instructor evaluations." Given the problems many faculty and administrators have in interpreting and using even basic ratings information for teaching improvement or personnel decision making, (Franklin & Theall, 1989) this caution seems well advised.

Analysis of the locus of attributions thus provides results which support the validity and reliability of student ratings. From these analyses, one can conclude that students are valid as raters because they can assess instructional quality independent of even person variables, and that evaluation ratings are reliable because they will be consistent within classes (i.e., excellent/average/poor instruction will be rated as such whether students are internally or externally oriented) and across classes (i.e., results will be consistent across class levels and all ranges of grade point average).

Limitations of previous studies

In these studies, sample sizes have varied. Howard and Maxwell (1980) used the IDEA database (overall n = 200,000 +; unit of analysis was the course with n = 8,551 courses in the sample) and Bausell and Magoon (1972) used 12,000 individual responses from a local evaluation instrument. But these two studies focused on the relationship of grades to ratings. Marsh's (1984) sample contained 248 subjects but these were fifth graders rather than college students. Gigliotti & Buchtel's sample contained 691 college students. Theall's (1986) analysis of data (11,384 individual responses from a locally developed instrument) was as part of the validation process for the ratings instrument rather than a separate study. Crittenden and Norr used a locally devised instrument in 52 classes with a total sample of 1,718 students. Other studies noted in the review had sample sizes from 76 to 759. Thus, most of the studies of attribution-related issues either used relatively small samples or were preliminary in nature.

METHODS:

The present study expanded on the authors' previous analysis by increasing the number of variables investigated, specifying questions to be addressed, adding more powerful methods of analysis (analysis of variance and discriminant analysis, and by using a much larger database (about 50,000 respondents). In the previous analysis, there were many instances where cell sizes for extreme conditions made interpretation difficult or impossible (e.g., there were no students who expected 'F' grades in courses rated "least difficult", and there were many instances of cells with fewer than 10 members). In the present database (which incorporates the original data) this problem occurs only once. The cell for those students who expected 'F' grades in the "least difficult" courses contains only 3 members. All other cell sizes are 20 or more.

Instrumentation

Student data

Data were collected with the Teacher-Course Evaluation Project (TCEP) questionnaire used in Theall's (1986) analysis and described by Theall, Franklin, & Birdsdall (1987). The TCEP questionnaire (copy included as Attachment A) was designed for diagnostic/ teaching improvement evaluation with the additional capability to provide information for student course selection, personnel decision making, and educational or institutional research. The questionnaire contains 22 specific items about instructor behaviors; 9 general or summary items; and eight items about the student.

This study concentrated on:

1) five of the general items

* overall rating of the instructor (TCEP item # 31)
* overall rating of the course (TCEP item # 32)
* rating of the amount learned (TCEP item # 30)
* rating of the course organization (TCEP item # 28)
* rating of course difficulty (TCEP item # 24) and

2) six of the student items

* student entry level skills (TCEP item # 33)
* perceived value of course content (TCEP item # 34)
* students' class level (TCEP item # 38)
* self-reported grade-point-average (TCEP item # 39)
* self-reported expected grade (TCEP item # 40)
* the students' performance attribution (TCEP item # 36)

The attribution item was phrased as follows:

"The single most important factor determining the grade I expect to receive in this course has been:

A. my ability
B. my effort
C. the instructor's teaching ability
D. how difficult (or easy) the course was
E. the other students in the class
F. luck"

The response options, classified according to Weiner's (1974; p. 6) scheme (when possible), are presented in Table 1.

TABLE 1

Classification of attribution response items

Item	locus	/stability	/intentionality
A. 'my ability'	internal	stable	unintentional
B. 'my effort'	internal	unstable	intentional
C. 'the instructor's...'	external	stable	unintentional
D. 'course difficulty'	external	unstable	unintentional
E. 'other students'	external	unstable	----------
F. 'luck'	external	unstable	unintentional

The other items considered in the study were common to most student rating forms. Evaluative items had typical response scales (e.g., the overall course item used a 5-point scale ranging from "one of the best" through "about average" to "one of the worst"). Demographics items were categorical (e.g., class levels) or Likert-type (e.g., prior preparation and content value used 5-point "strongly agree" to "strongly disagree" scales).

Data used to address the "trait" vs. "state" question (see the "Research questions and hypotheses" section which follows) were collected using the Motivated Strategies for Learning Questionnaire (MSLQ; Pintrich, et. al., 1988). MSLQ items are phrased to refer to one course at a time (e.g., MSLQ #2, "If I want to get good grades in this course, it depends on what I do."). Students respond on a seven-point Likert scale with end points "Not at all true of me" and "Very true of me" and a neutral, central option. MSLQ items were rephrased to address overall opinions about academic performance (e.g., #2, "If I want to get good grades in my courses, it depends on what I do.") because the questionnaire was not administered at the end of a course and because its purpose was to provide information about "trait" attributions. The response scale was also changed. A six-point, forced choice scale was used with end points, "Very much

like me" to "Very much unlike me." The neutral point was omitted in order to force a choice between loci. With only 200 respondents, it was felt that too much data would be lost to 'neutral' statements. The items from section 2a (motivation scale > expectancy component > control beliefs > internal-external reasons for success and failure) were used to determine internality and externality. Copies of the original items, their paraphrased versions, and the paraphrased response scale are provided in Attachment B

Faculty data

A self-evaluation questionnaire for faculty (Attachment C) is available in the TCEP system and it contains identical instructor behavior and summary items but replaces the student information items with instructor demographics. The self-evaluation questionnaire also contains two items related to the study. A general rating of the quality of the class (item # 40), and an attribution item (# 39). The class rating uses a 5-point "among the best" to "among the worst" scale while the attribution item asks instructors to identify "The single most important factor determining student performance (as measured by grades) in this course..."

Responses to this item and Weiner, (1974) categories are as follows:

A.	student ability	[external/stable/unintentional]
B.	student effort	[external/unstable/intentional]
C.	my teaching ability	[internal/stable/unintentional]
D.	my effort	[internal/unstable/intentional]
E.	course difficulty	[external/stable/unintentional]
F.	mainly luck	[external/unstable/unintentional]

Sample sizes

The student questionnaire has been used in 2,381 courses with about 48,500 respondents (47,732 was the usable sample). The self-evaluation was used in over 1200 classes (usable sample sizes ranged from 352 to 1200 depending on the item). In both cases, the samples included multiple sets of ratings from individuals (i.e. students who had rated several courses and instructors who had used the self-evaluation more than once). No attempt was made to identify, isolate, or remove these cases.

Data collection procedures

All data except MSLQ attributions were collected as part of the normal process of teacher-course evaluation. Packets of materials were sent to each instructor and included: 1) questtionnaires and response sheets pre-printed with instructor and course information (both matching the course enrollment as provided by faculty, and/or department, and/or registrar); 2) information and instructions for data collection; 3) the

self-evaluation form and return envelope; and 4) a form to be signed by the student monitor stating that data were collected according to instructions. Faculty gave packets to student monitors whom they selected. Monitors administered the evaluation and returned materials to a specified campus drop-off.

Data were coded to indicate irregularities (e.g., evaluations administered after a final exam rather than during the two-week, pre-finals period) and were omitted from analysis if the irregularity could have affected results. The TCEP data management software produced a datafile ready for statistical analysis using SPSSX (SPSS Inc., 1988). All analyses were done with SPSSX.

The MSLQ was administered at two, public, campus locations: a cafeteria and a lounge area. These provided 187 of the 204 surveys while a set of office areas provided the other 17 surveys. Students were paid $1.00 each for their time and effort. The lead author and a graduate assistant collected the data by requesting indviduals or groups of students to participate and then, monitoring their progress until the surveys were completed and returned. Students worked alone and were paid when they returned completed surveys. The process took an average of 20 minutes per subject to complete. At any given time during the process there were from 1 to 15 surveys underway.

Research questions and hypotheses

In this study, the basic assumption is made that causal attributions are the result of students' perceptions and interpretations of events in the instructional context. In other words, attributions are effects, not causes. The two basic variables are thus the attribution and the measure of the students' performance. Operationally, these are defined as students' responses to items 36 & 40 of the TCEP questionnaire. Each of the other variables in the analysis is also defined as students' responses to the corresponding TCEP item.

There were five major questions to be answered in the study.

1. What are the patterns of attributional ratings across the range of expected grades?

   Hypotheses.. null = observed attributional frequencies will not be significantly different in any expected grade level than the sample frequencies (Int = 79.2%; Ext = 20.8%)

   rsrch. = externality will increase as grades decrease and observed frequencies will be significantly higher than expected

2. What are the attribution patterns with respect to the following variables?

(A) overall instructor .. item # 31
(B) overall course .. item # 32
(C) amount learned .. item # 30
(D) course organization . item # 28
(E) course difficulty .. item # 24
(F) perceived value of course content .. item # 34
(G) students' prior preparation .. item # 33
(H) student's class .. item # 38
(I) students academic performance overall [i.e., GPA] . item # 39?

Hypotheses.. null = there will be no significant differences between expected and observed attribution frequencies for variables (A) through (I)

rsrch. = attributions will become more external as ratings become negative and observed external frequencies will be significantly higher than expected

3. Is the attribution by expected grade pattern affected when each level of each variable above is added into the analysis?

Hypotheses.. null = observed attributional frequencies across the levels of variables (A) through (I) will not differ significantly from the basic attribution by expected grade frequencies

rsrch. = attributional frequencies will differ significantly, becoming more external as ratings on variables (A) through (I) become more negative

4. Are there significant differences between internally and externally attributing students when they respond to the items (A) through (I) above?

Hypotheses.. null = there will be no significant differences between mean scores of internal and external groups on variables (A) through (I) above

rsrch. = external means will be significantly lower than internal means on all items

5. Can attributional locus be predicted by using one or more of the items above?

Hypotheses.. null = prediction of the locus of attributions will not be improved over chance level through the use of variables (A) to (I)

rsrch. = use of expected grade and certain items in (A) through (I) above will significantly increase the percent of variance accounted for in a predictive equation

Two further questions were addressed in an exploratory manner. They were: 1) "Are attributions about specific, individual courses different from attributions about overall academic performance? (i.e., can attributional locus be both a "state", and "trait" variable); and 2) "What are the relationships of faculty attributions about student performance to faculty ratings of their own performance, the quality of their courses, and the quality of the students in their courses?

No formal hypotheses were generated with respect to these questions but the preliminary analysis (Theall, 1986) suggested some possible results. First, attributions about long-term academic performance would be slightly more internal than those made about specific courses, and that even if such was the case, specific course attributions would not be affected. In other words, attributions vary across different expected grades in the same ways regardless of the long-term academic performance of the individual or the individual's attributions about that performance. Thus, individuals may have different loci of attribution in the two situations.

The second question was not addressed in earlier analyses but it was expected that faculty attributions would be largely external, that is, that they would place the responsibility for student performance on students. New instructors or TAs were expected to display more internality. The relationship between attributions and other variables were not estimated.

Data analysis and limitations

All analyses were done using SPSSX (SPSS Inc., 1988). Individual responses to the various TCEP items were analyzed. But it is generally agreed that at least in validation studies of evaluation instruments, the 'class' should be used as the unit of analysis (e.g., Abrami, 1981; Marsh, 1987). Class means are required for factor analyses or similar single procedures as well as for combinatory procedures such as meta-analysis (i.e., as Whitely & Doyle [1976, p. 243] would use to investigate "between-class ...trait occurrence-factors").

When TCEP underwent validation, analyses using both class and individual responses were used. Validation reports were produced for internal purposes but not published separately, although some of the results were reported by Theall (1986). Results of factor, regression, and other analyses were identical. In this study, however, it would have been meaningless to calculate a 'mean attribution score' for each class. This data is more the type that Whitely & Doyle (1976, p. 243) say can be analyzed for "within class ...trait usage factors." Further, there was but one attribution item and it used a nominal level response scale. The nature of attributions as personal decisions in this

data makes analysis of individual responses intuitively appealing as well.

Additional support for the use of individual data comes from Gigliotti and Buchtel (1989) who note that the "...potential biases we observe at the individual level may not generalize to the class level... "

Finally, attributional data can be grouped for analysis and used as control variables in analyses of other data which are more amenable to interpretation as mean scores. An example would be the use of internal/external groupings on a class-by-class basis to categorize class means on 'overall instructor' and 'amount learned' items so that these could be analyzed with respect to specific behavior items. The objectives of such studies would be to determine whether certain teaching strategies benefit one group over the other and/or result in different overall ratings. The problem here, is that instances of classes being predominantly 'external' are extremely rare. In the present database, the internal/external frequencies were 79.2% and 20.8% (respectively). Any instances of predominantly 'external' classes would also have included unusual pecentages of 'F' grades AND an equally unusual number of 'worst' ratings for the instructor. Cell sizes from the contingency tables showed that such cases did not exist in this study's data

Another problem with the data was the difference in the sizes of the groups (approximately 37,000 internal and 10,000 external) with respect to the group variances. In the discriminant analyses, Box's M results were all significant at <.000 levels, while in the analyses of variance, Bartlett-Box figures were also significant at extreme levels. Whether this violation of the basic 'larger group - larger variance' premise seriously restricts the usefullness of the results is hard to determine but, given the size of the sample, the assumption is made that the effect was minimal.

The last data issue of note is limited range. Consider the variables "expected grade" and "overall instructor rating", for example. A crosstabulation analysis of these variables produces a 'chi square' value of 2682.2030 (sig. at <.00001). As this result suggests, the observed frequencies in the whole sample differ from the expected by a substantial margin. Yet a correlational analysis of the same variables, though it produces a significant 'Pearson r' (.2189; alpha = <.000), accounts for only 4.79% of the variance. A review of the data shows why this is so. It is because over 90% of the data are found near the positive ends of their respective scales. Over ninety-five (95.9) percent of the expected grades are 'A', 'B', or 'C' while over eighty-eight (88.1) percent of the instructor ratings are in the top three categories. These data differ only marginally in their observed and expected frequencies thus the range of values is considerably restricted. Positive skews in both grades and overall instructor ratings are to be expected but their co-occurrence makes analysis and interpretation more difficult. More will be said about the meaning of these analyses

in the discussion section below.

RESULTS:

Power of statistical tests

There is a great deal of data presented in this section. In order to simplify the presentation, a categorical statement can be made about the power of the statistical tests employed in the analyses. It is this: based on Cohen's (1977) tables, the power of all tests employed was .90 or higher. This, of course, is a function of the size of the sample and carries with it, the caution that even small effects will be significant. Thus, despite the fact that literally every test produced statistically significant results (and these, at probabilities of .000 or less) the educational/social/psychological significance of the findings must be realistically and carefully assessed.

The research questions

Question # 1. ... The null hypothesis is rejected in favor of the alternative hypothesis.

Observed attributional frequencies differed significantly from expected frequencies. (chi square = 4222.67; df = 25; alpha = <.00000; eta = .263). In order to display these (and in fact all crosstabulation results) more clearly, a graphic system has been produced. Figure 1 uses that system and an explanation is provided below.

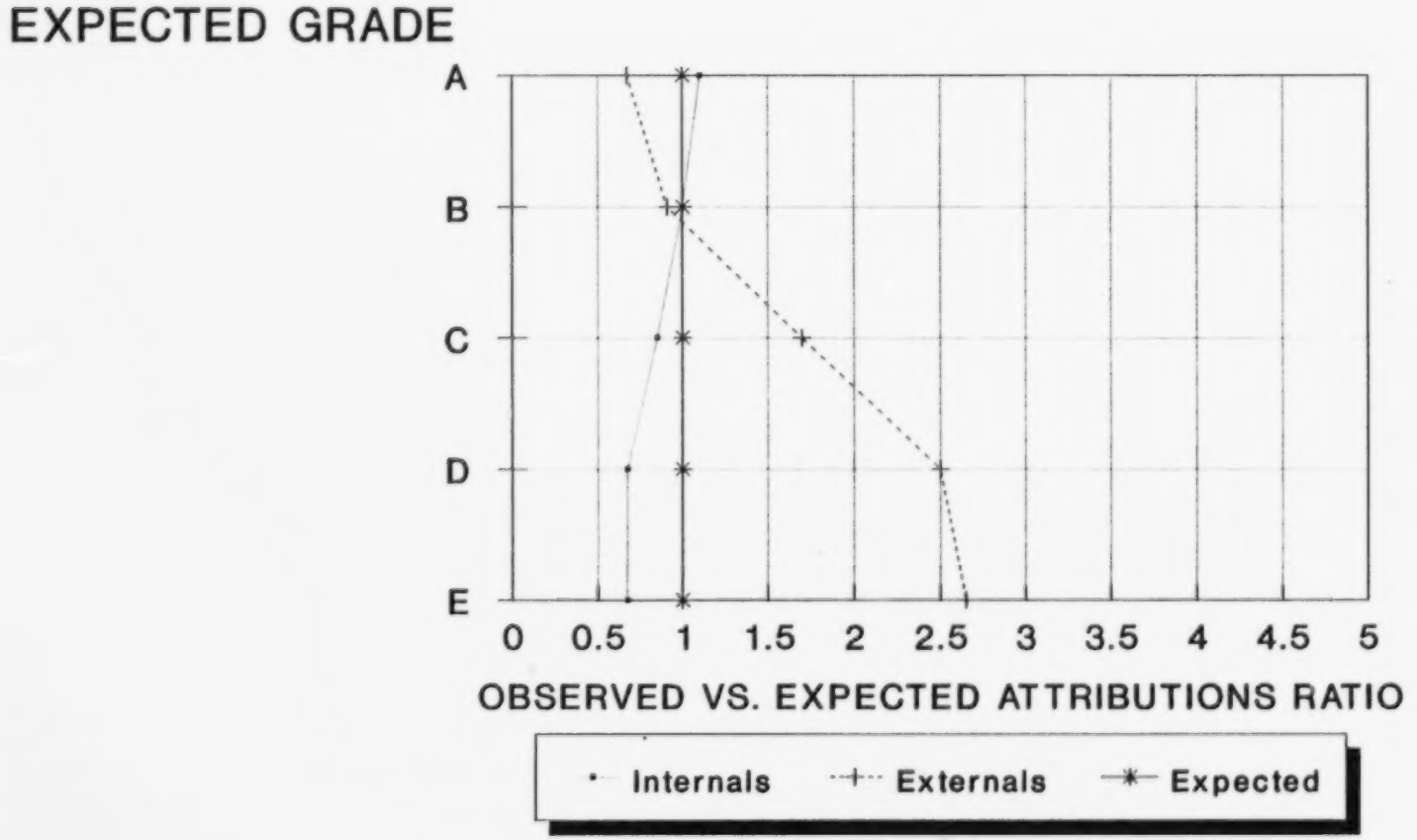
insert Figure 1 about here

The vertical axis contains the expected grades 'A' through 'F'. The horizontal axis contains a scale based on the ratio of the percentages of observed and expected frequencies for the attributions. For example, 14% of the students expecting 'A' grades made external attributions. The percentage of external attributions in the overall sample was 21%. A ratio of observed to expected would be 14/21 or its decimal equivalent, .67.

On the horizontal axis, the values range from "0" (at left, indicating no observed occurrences) to "1.0" (the vertical line near mid-graph indicating equal expected and observed frequencies) to "5.0" (far right, indicating 5 times as many observed occurrences as expected).

For example, if the observed and expected percentages of external attributions at the grade of 'A' were the same, the resulting ratio in this analysis would be 21/21 (or its equivalent, 1.0). Thus the data point for that ratio would be

ATTRIBUTIONS BY EXPECTED GRADE



Based on sample n=47,732
Internal=79%, External=21%

Figure 1

20a

on the "1.0" vertical line. If expected and observed percentages were the same at each grade level, a vertical line at "1.0" would result. Therefore the plotted lines deviate from the vertical line at "1.0" to the extent that observed and expected ratios are different. Also, the numbers along the horizontal line are at ratio level (e.g., '2.5' means two-and-one-half times as many attributions as expected).

The sample internal and external values were 79% and 21% respectively. In Figure 1, external attributions were fewer than expected when the expected grade was 'A'; almost similar at 'B'; about 1.7 times more frequent than expected at 'C'; 2.5 times more frequent than expected at 'D'; and 2.65 times more frequent than expected at 'F'. Internal attributions were negligibly greater than expected at 'A'; exactly as expected at 'B'; less than expected (.85) at 'C'; and even less (.67 and .68) at 'D' and 'F' (respectively).

Question # 2. ... The null hypotheses are rejected in favor of the alternative hypotheses for variables 'A', 'B', 'C', 'D', 'F', and 'G'; rejected with reservations for variable 'E'; and rejected with strong reservations for variables 'H' and 'I'.

Table 2 presents statistical results for the variables in alphabetical order.

TABLE 2

Crosstabulations statistics for variables 'A' through 'I'

variable	'chi ^{2}'	d.f.	sig.	'eta'
'A'.. overall instructor	3581.60	20	all	.227
'B'.. overall course	4660.08	20	values	.267
'C'.. amount learned	4746.20	20	<.00001	.261
'D'.. course organization	3235.83	20		.227
'E'.. course difficulty	1816.28	20		.155
'F'.. course content value	2559.96	20		.221
'G'.. prior preparation	3251.54	20		.215
'H'.. class level	784.31	25		.059
'I'.. G. P. A.	551.88	20		.079

The graphic displays of results for variables 'A', 'B', 'C', 'D', 'F', and 'G' are so similar to that shown in Figure 1 that figures for these variables are unnecessary. In all cases, external attributions are less frequent than expected at the positive end of the variable's response scale and much more frequent than expected at the negative end. Internal attributions are slightly more frequent than expected at the positive end of the scale and somewhat less frequent than expected at the negative end.

Figures 2 and 3 present results for variables 'E' and 'H'. Figure 2 (variable 'E'.. course difficulty) shows that both internal and external attributions were very close to expected levels when courses were rated "extremely easy", "easier than average", or "about average" but differed from expected values when courses were rated "more difficult than average" or "extremely difficult". (Note that the vertical axis contains the levels of the variable in question. Later, in discussing question 3, graphic displays will all use 'expected grade' values on the vertical axis.) The percentages of ratings

insert Figure 2 about here

on the difficulty item were unevenly distributed with 51% being "average", 30% being "more difficult", and 12% being "easier", but with only 5% being "most difficult" and 3% being "easiest".

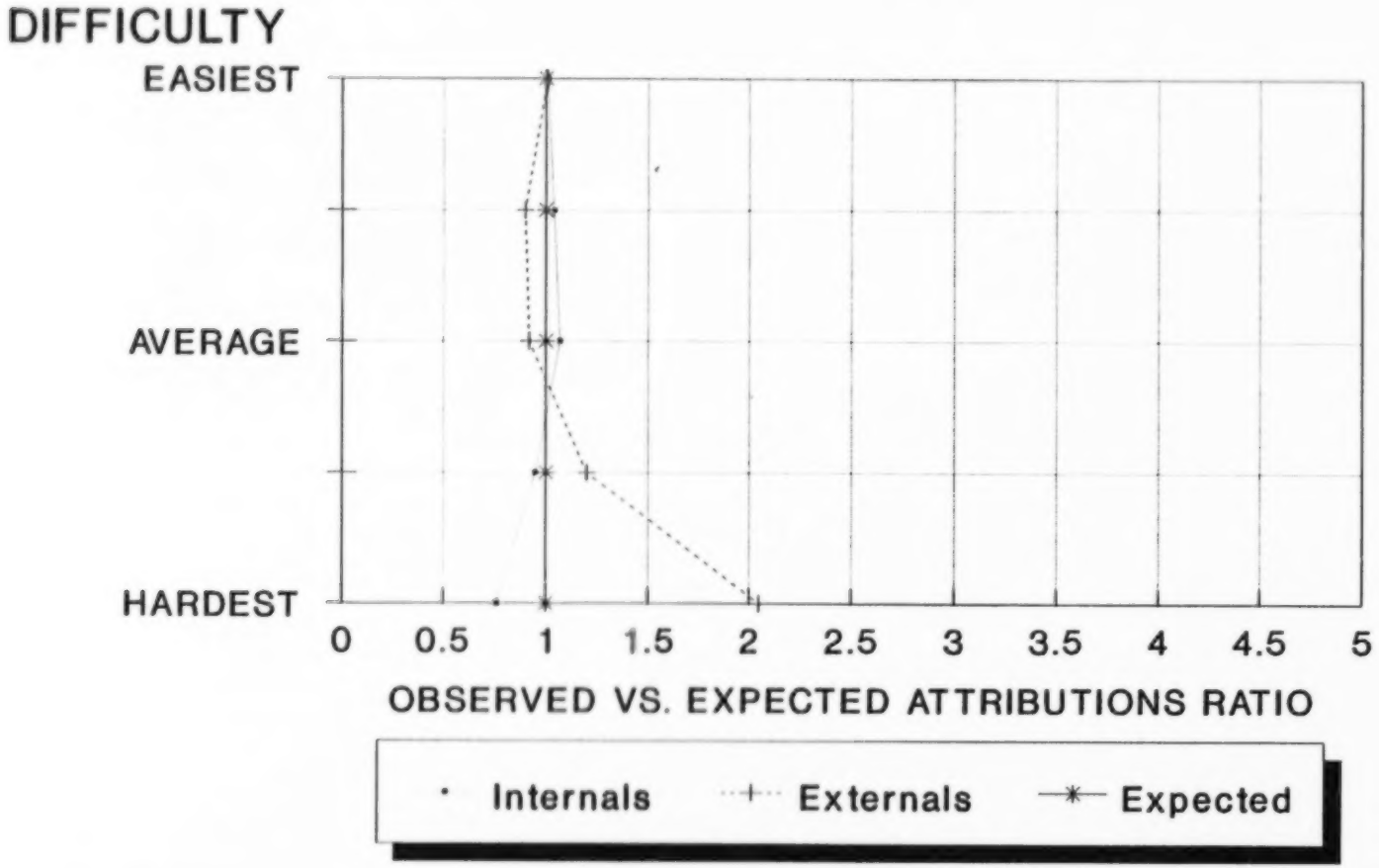
Figure 3 presents results for variable 'I' (G. P. A.). These results are very similar to those for variable 'H' (class level). In both cases, the expected and observed percentages of internal and external attributions are very similar and thus, the plotted graphs do not vary far from the "1.0" line. This graph demonstrates the differences between these, and the other variables as shown in the 'chi square' and 'eta' columns of Table 2. In effect, the attributions of freshman are not really much different than those of graduate students and the attributions of students with G.P.A.s of 3.26 to 4.0 were really not much different from those of students with G.P.A.s of 1.0 to 1.76.

insert Figure 3 about here

Question # 3. ... The null hypotheses are rejected in favor of the alternative hypotheses for variables 'A' through 'D', and variables 'F' and 'G'; rejected with reservations for variable 'E'; and rejected with strong reservations for variables 'H' and 'I'.

The statistics and graphs for variable 'A' (overall instructor rating) will be used as models for all the variables accepted without reservation. In Table 3, statistics are presented for five analyses: one for each level of the instructor rating item. Each analysis was of the expected grade-by-attribution pattern for one level of the instructor rating. In addition to the statistics, the distribution of responses across the five levels of the item are also provided.

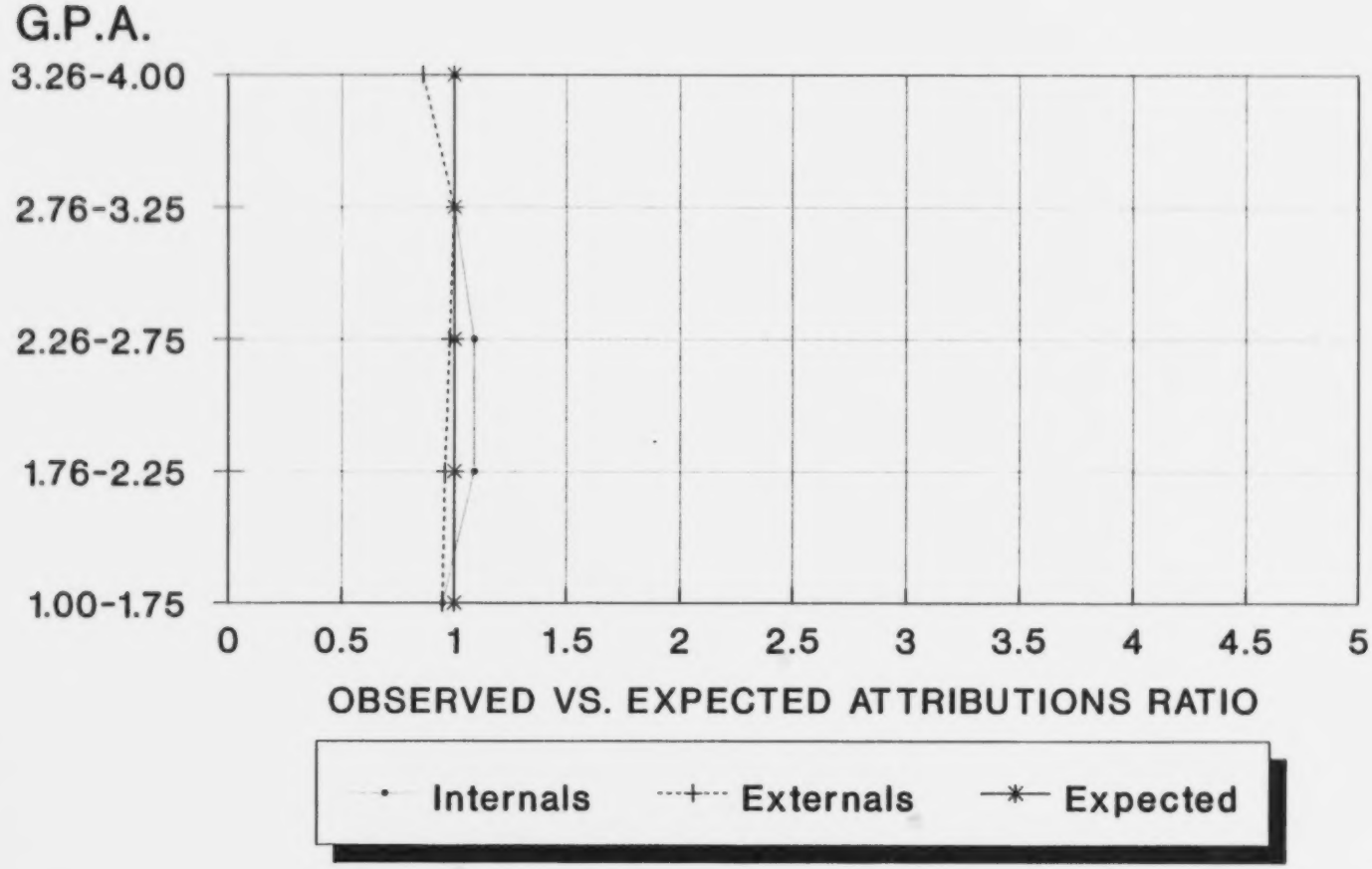
ATTRIBUTIONS BY COURSE DIFFICULTY



Based on sample n=47,732
Internal=79%, External=21%

Figure 2

ATTRIBUTIONS BY G.P.A.



Based on sample n=47,732
Internal=79%, External=21%

Figure 3

TABLE 3

Crosstabulations of attribution by expected grade for five levels of instructor ratings
('eta'= % of var. acctd. for; % = percent of whole sample)

level	$'chi^2'$	d.f.	sig.	'eta'	%
"one of the best"	759.38	25	all	.174	31.3
"better than average"	979.14	25	values	.212	33.7
"about average"	1048.98	25	<.00001	.261	22.8
"worse than average"	461.58	25		.266	8.1
"one of the worst"	339.00	25		.284	4.2

Figure 4 presents graphs for these five analyses side-by-side. The graphic displays dramatically demonstrate how attributions change when the five different levels of instructor performance are taken into account.

insert Figure 4 about here

Of particular interest in Figure 4 is the movement of the graphs. External attributions are 1.2 times more frequent than expected for 'A' students when the instructor is "worst" but only .65 the expected value when the instructor is "best". With 'D' and 'F' students, attributions are 4 times as frequent as expected with "worst" instructors but only 1.3 times as frequent with "best" instructors. Thus, even when failing, externally oriented students recognize, and differentiate between good and bad instruction. Internally oriented students make similar distinctions. With "best" instructors, their attributions are very close to expected values, but with "worst" instructors, all observed internal attributions are less frequent than expected.

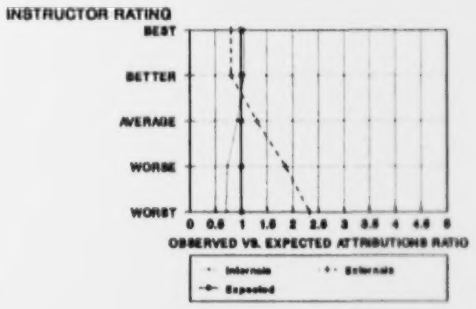
Also worthy of note is the fact that for "average" instructors, the graph takes the shape of the normal, attribution-by-expected grade graph, and that the intermediate ("better" and "worse") ratings produce patterns which fall between "average" and the appropriate semantic ends of the scale. In other words, the "better than average" ratings graph falls between "average" and "best" while the "worse than average" falls between "average" and "worst".

Variables 'B', 'C', 'D', 'F', and 'G' all present similar statistics and similar patterns of attributions. Their "average" ratings produce graphs resembling the basic graph of attributions-by-expected grades; positive ratings are associated with movement away from externality; and negative ratings are associated with sharp increases in external attributions.

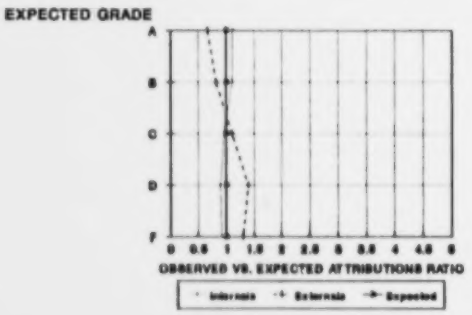
ATTRIBUTIONS BY EXPECTED GRADE

ACROSS FIVE LEVELS OF INSTRUCTOR RATINGS

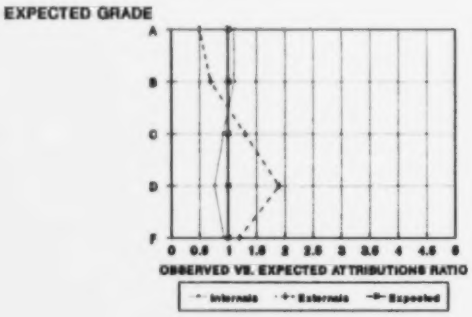
INSTRUCTOR ALL LEVELS



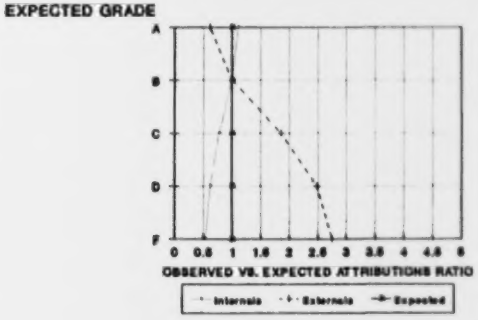
INSTRUCTOR "BEST"



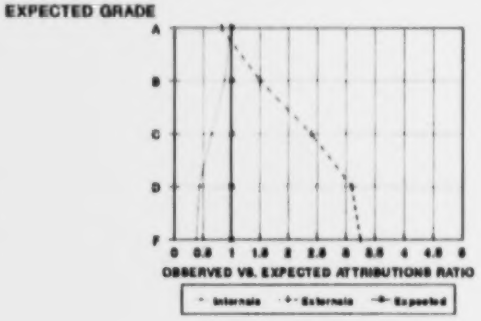
INSTRUCTOR "BETTER"



INSTRUCTOR "AVERAGE"



INSTRUCTOR "WORSE"



INSTRUCTOR "WORST"

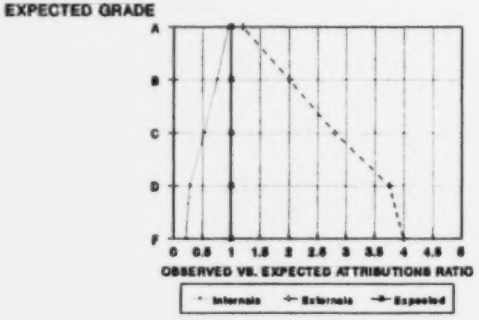


FIG. 4

Table 4 presents statistics for the 'difficulty' item.

TABLE 4

Crosstabulations of attribution by expected grade for five levels of course difficulty

level	'chi ^{2}'	d.f.	sig.	'eta'	% dist.
"extremely easy"	119.85	25	all	.181	2.9
"easier than average"	322.16	25	values	.175	11.6
"about average"	1445.32	25	<.00001	.216	50.9
"more diff. than avg."	1280.67	25		.269	29.5
"extremely difficult"	321.81	25		.318	5.0

"Course difficulty (variable 'E)' presents an intermediate result similar to that reported in Question # 1. It also presents an interpretation problem because, unlike the other ratings items, it is not value-loaded. Courses which are easy or difficult can also be among the best or worst. Factor analyses of evaluation instruments have consistently reported workload/difficulty as a separate factor (see Marsh, 1987, p.266 for an array of evaluation factors reported by various researchers.) The TCEP instrument has been factor analyzed either as a whole or in part (e.g. analyses by class level, GPA, etc.) over thirty times (Theall, 1986) and every analysis (including that of the present data done with both individual and class as the units of analysis) has produced workload/ difficulty as a separate factor. (A set of TCEP factor analysis results and factor reliabilities is included with the TCEP instrument in Attachment 'A'.) In these analyses the correlations between the workload/difficulty items and the overall ratings of teacher, course, and amount learned ranged between -.14 and +.18. In fact, the only TCEP items which correlated to workload or difficulty in any meaningful way (i.e., correlations of .25 to .30) were those concerned with course organization, the instructor's ability to present information, and test difficulty. These relationships are both logical and predictable.

Figure 5 displays the graphs for all levels of difficulty. The five graphs are quite similar to the basic attribution-by-expected grade pattern and to each other, but raise certain questions. Why, for example, are the "easiest" and "most difficult" graphs so similar, and why, with "average" and "easier than average" courses, do attributions cut back toward the "1.0" line rather than continuing outward as in the patterns of other variables? The discussion section will address these issues in more depth.

insert Figure 5 about here

It has been noted that the graph of the attribution-by-class level was very similar to the graph of attribution-by-grade-point average (see Figure 3 and text on p. 12). Individual graphs of the levels of each of these variables are not presented because they are so similar to each other and to the basic attribution-by-expected grade graph. Tables 5 and 6 present the statistics for these two variables.

TABLE 5

Crosstabulations of attribution by expected grade for six student classes

class level	$'chi^2'$	d.f.	sig.	'eta'	%
"freshmen"	1692.01	25	all	.311	26.9
"sophomores"	585.28	25	values	.265	13.7
"middlers" (see *)	742.00	25	<.00001	.277	15.3
"juniors"	754.55	25		.284	14.3
"seniors"	876.49	25		.281	15.7
"graduates"	531.57	25		.246	14.1

* = cooperative education plan takes five academic years

TABLE 6

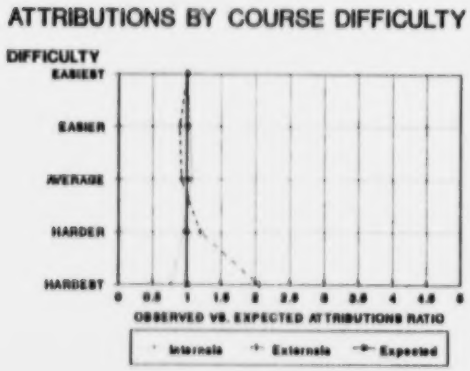
Crosstabulations of attribution by expected grade for five levels of grade-point average

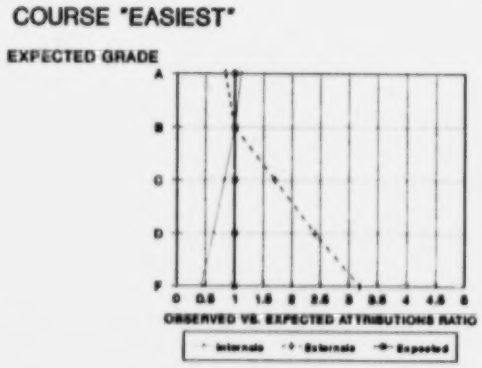
G.P.A.	$'chi^2'$	d.f.	sig.	'eta'	%
1.00 - 1.75	278.00	25	all	.397	2.4
1.76 - 2.25	418.41	25	values	.255	11.0
2.26 - 2.75	1137.28	25	<.00001	.281	25.0
2.76 - 3.25	1467.35	25		.261	35.8
3.26 - 4.00	1013.32	25		.257	25.8

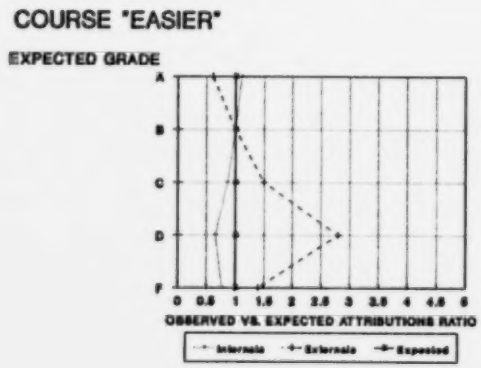
Note the 'chi squares' and effect sizes (eta) for freshmen and the 1.0-1.76 GPA levels. The freshmen constitute the largest percentage of the sample (26.9) and have the largest 'chi' and 'eta' values. Students reporting the lowest GPAs are the smallest group (2.4%), and have the highest 'eta' value but the smallest 'chi' value. Crosstabulation of GPA by class reveals an interesting (and possibly frightening) number. 56.5% of the students reporting GPAs of 1.0 to 1.76 were freshmen! The implications about expectancy for success and for retention

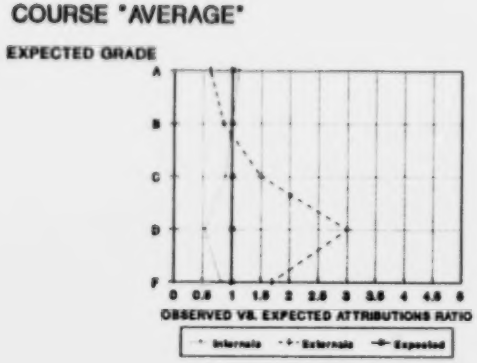
ATTRIBUTIONS BY EXPECTED GRADE

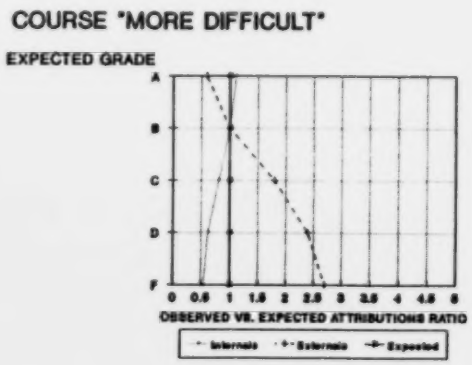
ACROSS FIVE LEVELS OF COURSE DIFFICULTY











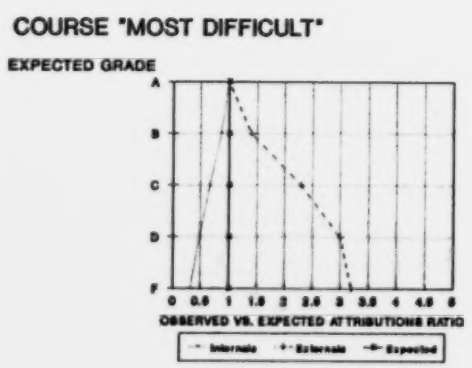


FIG. 5

efforts are clear. Interestingly, freshmen and/or those with low GPAs are not over-represented among externally attributing students. Apparently other factors affect the locus of attributions more than these two variables.

Question # 4. ... The null hypotheses are rejected in favor of the alternatives for 'expected grade'; for variables 'A' through 'G'; and for variable 'I'.

(variable 'H'.. 'class'.. was not used because its response scale was nominal rather than interval: i.e., there is no 'mean score' for the variable 'class'... although some faculty have reported that they have taught "mean classes")

Analyses of variance were conducted to investigate differences between externals' and internals' mean scores on each of the variables in question. Table 7 presents all the results.

TABLE 7

Analyses of variance for all variables
groups = internal & external attributions

(note: d.f. in all cases = 1)

variable	SS / MS	F	sig.	r/m *
expected grade	2515.8	1787.7	all	>.80
'A'.. overall instructor	1330.5	1189.1	values	>.80
'B'.. overall course	1153.1	1170.6	<.00004	>.80
'C'.. amount learned	1074.9	1178.7		>.80
'D'.. organization	1070.9	1032.3		>.80
'E'.. difficulty	240.2	348.4		>.80
'F'.. content value	1217.4	1066.3		>.80
'G'.. prior preparation	1465.8	1098.5		>.80
'I'.. GPA	642.2	440 4		>.80

* = measure of effect size taken from Friedman (1972, .p 279); .80 is the highest value provided in effect size table

These results are particularly powerful. The means of externally attributing students were significantly lower than those of internally attributing students on all the variables above. A note of caution is necessary here, because the results can be incorrectly interpreted. It is NOT the case that external students give lower ratings. It is not even correct to say that attributions are MADE external by these variables. We can only say that the two groups are significantly different.

Question # 5. ... the null hypothesis is rejected in favor of the alternative hypothesis with some reservations.

In order to investigate the possible causal relationships between the above variables and the locus of attribution, a series of discriminant analysis was conducted. These attempted to predict internal/external group membership using two or more of the above variables. Discriminant analyses attempted to predict individual membership in: 1) internal or external groups; and 2) internal/stable, internal/unstable, external/stable, or external/unstable groups (see the chart on p. 5). Predictor variables were expected grade and 'A' through 'G' above used as selected pairs (e.g., expected grade and amount learned) or all included. Some analyses were stepwise, some used a command which forced the sequence of entry into the predictive equation.

Table 8 has three parts. Part I presents results from an analysis using expected grade and variables 'A' through 'H' in the following order: expected grade; amount learned; prior preparation; difficulty; value of content; organization; overall instructor; and overall course. The analysis attempted to predict membership in one of four attribution category groups:

1) internal-stable .. attributions to ability of self;
2) internal-unstable .. attributions to effort of self;
3) external-stable .. attributions to instructor's ability;
4) external-unstable .. attributions to difficulty, luck, or other students in the class.

TABLE 8

RESULTS OF DISCRIMINANT ANALYSIS

Part I .. Functions and summary statistics

Function	Wilks' Lambda	$'chi^2'$	d.f.	sig.	cum. % var.
1	.8622	7229.9	24	<.00004	11.69
2	.9770	1135.3	14	<.00004	13.53
3	.9954	224.4	5	<.00004	13.78

The discriminant analysis produced three functions, each significant beyond .00004, and together, accounting for 13.78% of the variance (calculated as the sum of the squares of the cannonical correlations), an effect of relatively robust size, particularly considering the variance inherent in a sample of this size.

In order to determine which variables were the most powerful predictors, the group centroids in the three functions were

reviewed along with the correlations of the individual items within the functions. Table 8 (Part II) presents these figures.

TABLE 8

RESULTS OF DISCRIMINANT ANALYSIS

Part II .. Correlations within functions; group centroids

Variable	Correlations Function 1	Function 2	Function 3
overall course	.69921	-.55256	-.06147
amount learned	.67365	-.49682	-.29792
overall instructor	.61023	-.31098	-.38480
content value	.58630	-.15229	-.15955
organization	.55334	-.19990	-.40185
prior preparation	.54642	-.29035	.44326
expected grade	.56641	.64381	-.22439
difficulty	.35405	.09354	.60143

Part II .. Discriminant functions at group means (centroids)

Group	Function 1	Function 2	Function 3
1 external/unstable	-.91710	.20025	.00948
2 external/stable	-.30963	-.31331	.09474
3 internal/unstable	.08587	-.02671	-.06056
4 internal/stable	.34218	.11220	.08085

Function 1 is clearly defined with all the predictor variables correlating to the function with some strength and in the same direction. The distance between centroids particularly separates groups 1 and 4. Given the relationships between positive ratings and internality, the combined tables indicate that as predictor variable ratings increase, more internal attributions are made. The strong negative centroid for the external/ unstable group (almost 1 standard deviation below 0.0, the center of the scale) further defines the internal/external by high/low ratings relationship.

Function 2 is much less powerful and clear. The negative correlations of most of the predictor variables and the strong positive correlation of expected grade may be an artifact of the first function. That is, in order for the functions to be discrete, items can not correlate strongly with both. This can be taken as evidence of the discriminant validity of the ratings items. However, this does not explain the correlations for

expected grade, the only variable which is not evaluative. The two groups most separated by this function are external/unstable and external/stable. Perhaps what little power is left after Function 1, is discriminating between stable and unstable attributions. In other words, within the external group, membership in the stable or unstable categories is best predicted by expected grade and the direction of this prediction is opposite that which results from a prediction based on the other variables.

Function 3, though significant, displays too little power or centroid separation to warrant clear interpretation. The most interesting fact about this function is that the only two variables which correlate positively, also correlate strongly and are logically related (i.e., ratings of course difficulty and students' prior preparation).

Table 8 (Part III) shows the "hit ratio", that is, the accuracy of predicted versus actual group membership and presents the overall percent of correctly classified cases.

TABLE 8

RESULTS OF DISCRIMINANT ANALYSIS

Part III .. Predicted and actual group membership

		predicted membership %			
Actual group	cases	gp 1	gp 2	gp 3	gp 4
ext./unstable	5153	* 50.0%	9.4%	26.2%	14.4%
ext./stable	5497	23.5%	* 14.8%	33.7%	28.0%
int./unstable	28528	15.8%	6.3%	* 42.0%	35.9%
int./stable	12303	13.6%	5.3%	29.3%	* 51.7%

Percent of "grouped" cases correctly classified = 42.24%

The interpretation of predictive power of this analysis is most simply stated as a question of now much better than chance one's prediction is. There are four groups in the dependent variable. All else being equal, the chance of correct prediction would be 25%. But with unequal group sizes, this changes to the percentage of the sample the group contains. In this data, Group 1 contains 10.7% ; Group 2, 11.5%; Group 3, 54.1%; and Group 4, 26%. To determine the overall success of the prediction, a "proportional chance criterion" (Hair, Anderson, & Tatham, 1987, p. 9) was calculated by summing the squares of the group percentages (this equals 38.5%) and adding 25% of that figure to itself. The resulting figure is 48.12%. A "hit ratio" of 48.12% can thus be classified as "good". The "hit ratio" in this prediction was 42.24%: better than chance, but not

high enough to achieve the "good" criterion. Clearly, the "hit ratio" for group 2 was the major factor in failure to reach the criterion. Group 2 represents attributions to the external and stable attribution choice "the instructor's ability". This issue will be noted again in the discussion section.

Additional analyses

Two exploratory questions were noted earlier. They addressed whether attributions about long-term performance were the same as those about specific course performance, and what were the patterns of faculty attributions about student performance.

Long-term attributions

To assess long-term attributions, the Motivated Strategies for Learning Questionnaire (MSLQ; Pintrich et. al., 1988) was administered to 200 student volunteers. Eight items from the MSLQ were used to assess attributional locus. All items came from Section 2b (internal-external reasons for success-failure). Four of the items were worded so that the attribution was internal (e.g., #2.. "If I want to get good grades in my courses, it depends on what I do."). Four item were worded with external attributions (e.g., #28 "If I get poor grades in my courses, it's because the instructors don't like students like me.") Additionally, the internal and external items each had two success statements and two failure statements. (See Attachment B for the items) The concern here, was only with locus in the grouped eight items and in each subgrouping.

The frequencies of responses are shown in Table 9.

TABLE 9

Frequencies of internal and external responses in the MSLQ

item type(s)	number	% internal	% external
all items (total)	8	67.8%	32.2%
internally worded items	4	91.5%	8.5%
externally worded items	4	44.2%	55.8%
success-worded items	4	66.4%	33.6%
failure-worded items	4	69.4%	30.6%
internal/success-worded items	2	96.3%	3.7%
internal/failure-worded items	2	86.8%	13.2%
external/success-worded items	2	36.5%	63.5%
external/failure-worded items	2	51.9%	48.1%

The differences associated with item wordings make interpretation of these results somewhat difficult. The results suggest that item wording is important: the internality or externality of the wording exerting the greatest influence. Success and failure wordings have less influence. But the response scale for all items (a forced choice, 6-point scale) would have allowed internally oriented students to respond to the externally worded items with the "not at all like me" option. Students' reasons for not choosing this option can not be determined at this time.

Faculty attributions and attitudes

Faculty attributions about student performance and their evaluations of themselves and their students were assessed by analyzing items from the TCEP self-evaluation questionnaire. Crosstabulations of attributions were made against three other variables: 1) self-evaluation of instructor performance; 2) instructor evaluation of course quality; and 3) instructor evaluation of the overall quality of the students in the class. One other analysis was done to determine whether demographics might have affected the attributions. This analysis crosstabulated attribution and instructor rank. Table 10 presents statistics for these four crosstabulations.

TABLE 10

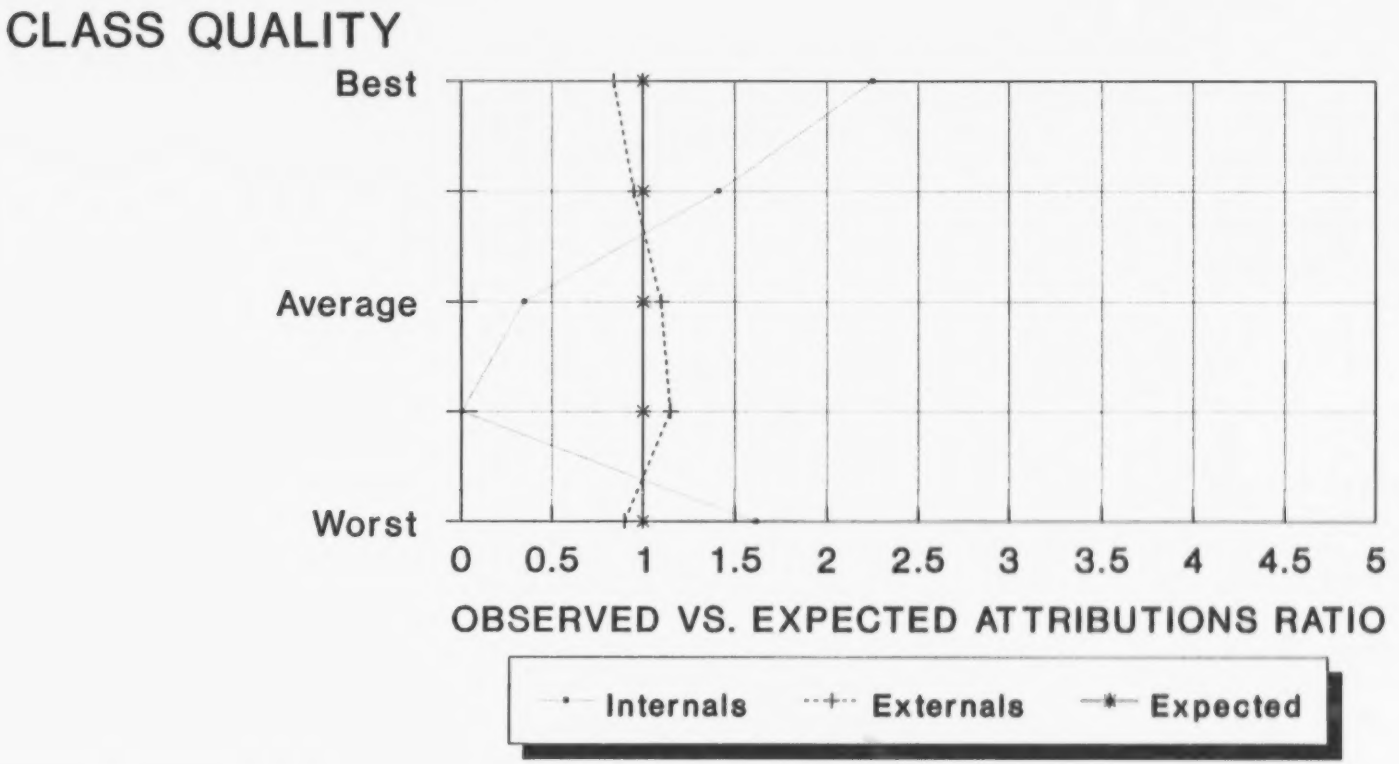
Crosstabulations of faculty attributions about student performance with faculty ratings of self, course, and the quality of students in their class

item	$'chi^2'$	d.f.	sig.	'eta'
self rating	18.74	20	.22587	.108
course rating	33.71	20	.02816	.136
rating of student quality	62.49	20	.00001	.253
instructor rank	70.79	25	.00001	.107

Three of the four crosstabulations produced significant results, but of these three, only the rating of student quality accounted for more than marginal variance. The lack of significance in the self-rating by attribution crosstabulation may be due, in part, to the fact that there were no "worst" ratings in the self-evaluations. Observed and expected values were thus the same. A review of the contingency table for this variable also shows very small residual figures (the largest is -1.8). Figure 6 presents the graph for attributions by student quality.

insert Figure 6 about here

ATTRIBUTIONS BY CLASS QUALITY
Faculty Responses



Based on sample n=460
Internal=12%, External=88%

Figure 6

Three facts are critical to interpreting this graph: 1) the population percentages of internal and external attributions are very different from those in the student data; 2) internal attributions here, are those in which the instructor claims to have been "...the most important factor determining student performance..."; and 3) the factors which influence attributions about others are different than those which affect attributions about self. These facts suggest that the patterns in these graphs can not be compared to those from the student data.

The most salient feature in Figure 6 is the spread of internal attributions across the graph. Interestingly, instructors who rate their students among the best also feel that they have been instrumental in their students' performance. The extent of internality among these instructors is 2.25 times the expected percentage. As student quality decreases, to "better than average" and then "average", instructor ratings become more external. Interestingly, although there were 37 ratings of "worse than average" classes, no instructor made an internal attribution at this level. Although it is tempting to interpret the reversal of direction of the internal graph at the "worst" case as meaningful, the fact is that only 5 "worst" ratings were given and four of the five attributions were external. Thus we can not assume that in these cases, instructors 'blame' either themselves, the students, or circumstances when they perceive a given group of students to be generally poor.

DISCUSSION:

Success, failure, and student performance attributions.

Student attributions about success or failure result from a complex interaction of events and variables specific to the academic situation in question (Gigliotti & Buchtel, 1989; Marsh et. al., 1984; Weiner, 1974; 1979). Additionally, these attributions are affected by the history of the individual in similar or related situations (e.g., by one's perceived "efficacy": Bandura, 1977; 1982), by any "dissonance" (Festinger, 1957) between these perceptions, and by other temporal events outside the college classroom and/or beyond the institution.

In this study, student attributions about academic performance were investigated with respect to student ratings of instruction with the primary emphases on expected outcomes (grades and the amount learned), on general student assessments of teacher and course (summary ratings), and on personal issues (preparedness and perceived importance of the subject).

It is clear from the results of the study that external attributions, poor grades, and/or negative ratings co-occur with far greater frequency than would be expected by examining the simple frequencies of internal and external attributions in the sample.

It is also clear from the results of the study, that the ratings of students whose locus of attribution is external are different from those whose locus is internal, and further, that the difference is directional: "external" mean ratings are lower than "internal" ratings for every variable investigated. Why is this the case?

General attribution theory (Weiner, 1974) can account for the coincidence of external attributions and poor performance. Other studies (e.g., McMahan, 1974) have reported that college students make external attributions after failure. In fact, a replication of the failure/externality finding was a necessary condition for the rest of the study. Of more interest, was the coincidence of external attributions with evaluation ratings and the significant differences between the internal and external groups. These require further explanation. The question of consequence from the evaluator's point of view is whether attributional locus is a factor which biases student ratings of instruction. For the personality researcher, the question is whether student perceptions of faculty performance or other factors influence the expected pattern of attributions. These two questions raise an important issue: whether attributions are a cause or an effect. The authors believe that the results support the position that attributions result from performance and perceptions. Attributions are effects, not causes.

Recent evaluation literature (Cohen, 1981; 1987) has shown student ratings to positively correlate with successful outcomes (i.e., ratings from multiple sections of courses correlated with results from an exam common to all sections). If ratings are a measure of satisfaction with instructors and courses, then a relationship between success and satisfaction should be expected. Factor analyses of the TCEP questionnaire (see Attachment A) have consistently produced a "course" factor which includes the overall course rating and items concerning textbooks, assignments, integration of activities, amount learned, etc. These items intercorrelate regularly (Cronbach 'alpha' reliabilities of the "course" scale have always been .80 or better). Ratings of the instructor, while they always correlate strongly with ratings of course and amount learned usually fall into the "instructor" factor which is specific to instructor teaching skills (reliabilities always .90 or better). Thus, at least with TCEP, it is to be expected that positive ratings of a course will most often be accompanied by positive ratings of the instructor. If success, satisfaction, good ratings, and internal attributions are related, and if the relationship of failure and external ratings has been established, then will there also be a relationship between failure and poor ratings?

"Grade inflation"

The usual distribution of grades is skewed toward the positive end of the scale. The distribution of expected grades in this study shows over 79% to be "A" or "B". The correlation of expected grades to instructor ratings in this sample is .2189

(unit of analysis was the individual; results significant at <.00004). The correlation of ACTUAL grades to ratings is .1882 (unit of analysis was the class with mean grade and mean instructor rating correlated; sample = about 6,000 courses including data used in the present study and results from a short questionnaire using a 10-item subset of questions from TCEP; results significant at <.00004). These figures are very similar to those reported by Cohen (1981). The effect sizes of these correlations are small (under 5% of the variance accounted for) but the correlations are significant due, in part, to the issue of limited range discussed earlier in this report (see p. 12). In this sample, 95% of the expected grades and instructor ratings were in the top three categories. Given the relationship between satisfaction and success, the significant correlation is thus, no surprise. However, a review of the crosstabulation of expected grades and instructor ratings shows another interesting result. The distribution of responses across the "worst" instructor rating shows that "A" students accounted for 20.3% of the ratings; "B" students accounted for 39.4%; "C" students accounted for 28%; "D" students, 8.5%; and "F" students 2.4%. Failing students did not penalize the instructor for their grades! It was the better students who were the most critical. Therefore, the reason that the correlations were not larger was that they existed in only part of the sample. These results also help to clarify the poor prediction for the external/stable group (see Table 8 Part III: p. 22). Prediction of membership in this group was poor because failing students (the ones most often external in their locus) did not "take it out" in the instructor. Students expecting all grades rated the instructor poorly, especially those students who would be least likely to do so if grades and externality were the only variables of consequence.

The conclusion which must be reached is the same as that of Howard and Maxwell (1980; 1982): success and satisfaction are related but grade inflation is not a viable explanation of this relationship. Further, the conclusion supports that of Marsh et. al. (1984) and Gigliotti and Buchtel (1989) that though self serving bias does exist, it is not a major problem to the validity of ratings or the processes of collecting, analyzing, or interpreting them. The significant difference between internal and external mean scores on evaluative ratings must thus be interpreted to mean that while those who perform poorly often make external attributions they don't necessarily rate their instructors poorly.

The influence of instructor and course variables on attributions.

A major portion of this report is devoted to the ways in which attribution patterns fluctuated when other variables were brought into the analyses (research question # 3). Fig. 4 (p. 16) shows the extent to which student perceptions of the quality of instruction affected their attributions. The same patterns appeared with "overall course", "amount learned", "course organization", "value of content", and "prior preparation". The conclusion to be drawn from these results is that student at-

tributions take more than expected grades into account. Weiner (1974) has used the term "naive psychology" to refer to everyday cause-and-effect analyses. The present study suggests that in academic settings, at least, students are sophisticated in their attributions, reflecting the entire situation rather than simply their own performance.

Predicting internality and externality

Attempts to predict membership in internal/external and/or internal/external by stable/unstable groups met with modest success. Discriminant analyses produced significant results and accounted for 10% to 14% of the variance. Results from other analyses would seem to suggest that prediction would have been more robust. The results may indicate: 1) that predicting attributional membership is difficult and imprecise; or 2) that modest predictive power was the result of having too few groups, limited range of the data, or the intercorrelations between the variables used for prediction.

Long term attributions

MSLQ results and the lack of attributive differences across all levels of grade-point-average suggest that long term causal perceptions can remain stable even when specific instances provide contradictory evidence. This disputes Owen & Froman's (1977) conclusion based on the 'discrepancy' between GPA and expected grade. In other words, one's perception of one's "efficacy" or one's "expectancy for success" is not seriously affected by one instance of a dissonant result. However, it seems clear that a series of negative results will gradually change these perceptions and in severe cases, (e.g., after several failures which can only be internally attributed to ability) can lead to a feeling that the individual is powerless to succeed no matter how much effort is expended. (i.e. "learned helplessness"; Dweck & Goetz, 1978; Garber & Seligman, 1980). Attributions are thus 'state' variables with respect to specific instructional events but more 'trait' variables with respect to predisposition or long-term views of self or situations.

Faculty attributions

Several factors make interpretation of the faculty results difficult. The first is that, in this sample, the co-occurrences (cell sizes) for certain conditions (e.g., internal attributions when classes were rated "worse than average") were too small to allow meaningful analysis and interpretation. The second is that faculty rated their classes as groups rather than making attributions about individual performance. The third is that attributions about others are considerably different than those about self. Weiner (1974) interprets research on the differing perceptions of teachers, observers, and students (p. 194) stating:

Self-predictions of achievement performance may there-

> fore greatly differ from the expectations of others in situations where effort is believed to be an important causal determinant of outcome. ...Teachers...believe that they are more responsible for the performance of pupils exhibiting improved performance over time than for the outcomes of pupils whose performance progressively deteriorates. ...Apparently, ego-enhancing and ego-defensive attributions are likely to be made when one is directly involved with the success or failure of others.

Weiner (p.198) also presents experimental results showing how teachers evaluated student performance in four manipulated situations. Students were described as having ability or having no ability, and as being motivated or unmotivated. Analysis of the rewards and punishments received by these students showed that the group receiving the greatest rewards and least punishment was the 'motivated' group with 'no ability'. The most harshly treated group was the 'unmotivated' group with 'ability'. He also suggests that those with high achievement motivation may be most severe in their attributions about those they percieve to be less motivated.

A note should be made that if the "rules" change when faculty make attributions about students' performance, (because those attributions are about someone else) then student attributions about faculty performance (as reflected in ratings) may follow the new "rules" more closely. Do high achieving students expect more from instructors? Are they less tolerant of failure to provide them with the success, achievement, or learning they want? Is this the reason that 59.7% of the "worst instructor" ratings in the present data came from 'A' and 'B' students?

For faculty attributions in this study (see Fig. 6, p. 24), the motion of the internal curve as student quality ratings decrease is exactly as suggested above. It is a fair assumption that college faculty are generally high in achievement motivation. Weiner's note about the attributions of high achievers seems appropriate to college professors, especially in the context of this study. But are all instructors equally motivated? A crosstabulation of attributions by faculty rank was performed to investigate for attributional changes. While the results were significant (see Table 10, p. 24), the only ranks to show much variance from expected values were assistant professors (who were 1.75 times as internal as expected) and teaching assistants (who were .58 times as internal as expected). These figures should be interpreted with caution because the overall distribution of internal/external attributions was 12% and 88% respectively. Thus, with only 46 TAs responding, the expected number of internal attributions would be rounded to 5. There were three, thus the (unrounded) value of .58. Another way to view this caution is to note that the value for external attributions for TAs is only 1.07 times what was expected.

When instructor attributions were crosstabulated with instructor self-ratings and then with course ratings, very similar patterns emerged. Instructors were slightly less internal than expected

with "best" ratings; slightly more internal with "better" ratings; somewhat less internal with "average" ratings; and essentially as expected with "worse" ratings. There were no "worst" self-ratings and only 2 "worst" course ratings. As Table 10 shows, the significance of attributions by course ratings was at a more lenient probability (.02) and the attributions by self-ratings were significant only at an extremely lenient level (probability =.22).

On the whole, instructor attributions seem to follow patterns suggested by previous research. The present results indicate that instructors place value on the effort which they perceive has been expended by students and take student ability into consideration. Whether their perceptions of the value or difficulty of their courses, or their views on the nature of course content (i.e., if a topic is particularly interesting or vital) affect these attributions can not be estimated at this time. The implications of the results have most to do with grading and their estimates of students' ability and effort. Just as Crittendon & Norr (1973) viewed student ratings as "person perception', it may be that grading students is a very similar process. If this is true, then should instructors be more aware of and more frequently use those strategies which can increase student motivation? Doing this could affect student performance in the short run by raising levels of achievement. In the long-term sense, a series of more successful course experiences could raise students' perceptions of efficacy and expectancy for success thus making the student more internally oriented and more willing to accept responsibility for his or her own performance.

FUTURE RESEARCH

Although we know a lot about how students evaluate instruction and the contextual factors which may affect ratings, our knowledge is less clear about the relationships of personality and cognitive variables to ratings (McKeachie et. al. 1986; Mikulincer & Nizan, 1988; Yarbrough, 1989). Understanding these variables is important to understanding evaluation but it is equally important to the development of effective methods of instruction (Keller, 1983) and thus, to student success and retention. It seems clear that externally oriented students, in many cases, are also students who are at risk. Can the performance of these students be improved or, failing that, can we ascertain which characteristics are associated with student success in specific areas? Certainly, ability and effort are paramount, but ability needs to be better defined and understood and effort can be enhanced. As Forsyth & McMillan (1981) note:

> By emphasizing the importance of internal, controllable factors as causes, teachers may promote pupils' educational experiences that are both more satisfying and more effective. (p. 19)

Future research and development should be aimed at these targets. The techniques for such research have been described (Cross & Angelo, 1988; Gray, 1989; Stark & Mets, 1988) and are suitable to single classroom investigations by teachers or to larger efforts which could be coordinated through such agencies as offices of evaluation and development, institutional research, or campus research centers. Established systems for campus-wide data collection (such as systems for teacher-course evaluation) can provide practical mechanisms for the logistical, data management, and analysis needs of such research. Further work must also be done on understanding faculty perspectives on issues that relate to student ratings as well as faculty and administrative understanding and use of student ratings (Franklin & Theall, 1989).

SUMMARY:

This study attempted to assess the frequencies of internal and external student attributions about their academic performance, and to determine if these attributions were affected by variables which are usually part of the instructional context. The analyses used responses from a teacher-course evaluation instrument, a measure of motivation, orientation and study habits/skills, and a faculty, self-evaluation instrument.

Three kinds of analysis were conducted in order to address the research questions about attributions, grades, and ratings. The questions were distinct, but interrelated, and the conclusions made about the separate parts of the study were supported by the fact that the three analysis methods produced complementary results. Crosstabulations, analyses of variance, and discriminant analyses supported the convergent and discriminant validity of ratings as well as the existence of attributional classes and the effects of instructional situational variables on them.

Attributions of performance were shown to be strongly related to expected grades in ways predicted by previous research and further, to fluctuate with respect to many other instructional variables in similar and predictable ways. Additionally, the attributions of internally and externally oriented students were shown to be significantly different. Attributional (self-serving) bias was established but found not to invalidate ratings. Some possible reasons for attributional patterns were presented. Attributions were shown to be effects, not causes. Attributions were stable when made vis-a-vis long term constructs but varied when made about specific performance in courses. And finally, faculty attributions followed patterns suggested by previous literature.

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ATTACHMENT A

TEACHER-COURSE EVALUATION PROJECT QUESTIONNAIRE

AND

SUMMARY OF FACTOR ANALYSES OF THE TCEP QUESTIONNAIRE

TCEP Questionnaire

TEACHER-COURSE EVALUATION PROJECT
Office of Instructional Development and Evaluation, 417 Dodge

SECTION I: The Instructor

Which of the following options best describes how often each statement is true regarding YOUR instructor in THIS class

A = almost always
B = more than half of the time
C = about half of the time
D = less than half of the time
E = almost never OR
F = this ITEM DOES NOT APPLY to this course

The instructor:

1. communicates the purposes of class sessions and instructional activities.
2. speaks clearly and audibly when presenting information.
3. presents information at a rate I can follow.
4. indicates which information is essential and which is minor.
5. uses examples and illustrations which help clarify the topic being discussed.
6. shows important relationships among the topics being treated in this course.
7. inspires excitement or interest in the subject matter of this course.
8. relates course material to relevant real life situations when possible.
9. asks questions which challenge me to think.
10. provides opportunities for me to bring up or discuss issues related to the course.
11. develops an atmosphere of respect and trust in the classroom.
12. manages classroom discussions so that they are a useful part of my learning experience.
13. presents activities and materials appropriate for my level of experience and ability.
14. clears up points of confusion for me.
15. provides assistance on an individual basis outside of class when I need it.
16. gives me regular feedback about how well I am doing in the course.
17. states in advance precisely how my performance is to be evaluated.
18. gives tests (exams) that are fair and accurate measures of course skills, concepts, and information as taught.
19. returns exams and assignments quickly enough to benefit me.
20. suggests specific ways I can improve my performance in this course (when needed).
21. makes effective use of class time.
22. is punctual in meeting class and office hour responsibilities.

SECTION II: THE COURSE

Compared to other college courses you have taken ...

23. The workload for this course is:
    - A. one of the lightest
    - B. lighter than average
    - C. about average
    - D. heavier than average
    - E. one of the heaviest.

24. The difficulty level of the course activities and materials is:
    - A. extremely easy
    - B. easier than average
    - C. about average
    - D. more difficult than average
    - E. extremely difficult.

25. The textbook(s) and readings used in this course are:
    - A. among the best
    - B. better than average
    - C. about average
    - D. worse than average
    - E. among the worst
    - F. item not applicable, no textbooks or readings used.

26. Rate how well the syllabus, course outline, or other overviews provided by the instructor helped you to understand the goals and requirements of this course.
    - A. unusually well
    - B. better than usual
    - C. about as well as usual
    - D. worse than usual
    - E. not at all or no such information was provided.

27. Rate the usefulness of the outside assignments (writings, reports, and special projects) in helping you to learn.
    - A. extremely useful
    - B. more useful than average
    - C. of average usefulness
    - D. less useful than average
    - E. almost useless
    - F. item not applicable, no outside assignments

28. Rate how well the various elements of the course (e.g., class activities, textbooks/readings, and outside assignments) worked together in helping you learn.
    - A. very well
    - B. better than average
    - C. about average
    - D. worse than average
    - E. very poorly

29. The course goals or objectives presented by the instructor were met.
    A. strongly agree
    B. agree more than disagree
    C. agree and disagree, uncertain
    D. disagree more than agree
    E. strongly disagree
    F. no goals or objectives were presented by the instructor

30. Overall, how much do you feel you have learned in this course?
    A. an exceptional amount
    B. more than usual
    C. about as much as usual
    D. less than usual
    E. almost nothing

31. What is your overall rating of this instructor's teaching effectiveness compared with other college instructors you have had?
    A. one of the most effective
    B. more effective than average
    C. about average
    D. less effective than average
    E. one of the least effective

32. What is your overall rating of this course?
    A. one of the best
    B. better than average
    C. about average
    D. worse than average
    E. one of the worst

SECTION III: THE STUDENT

Using the scale below, indicate your agreement or disagreement with the following statements about yourself.

A. strongly agree
B. somewhat agree
C. mixed feelings, (agree and disagree)
D. somewhat disagree
E. strongly disagree
F. no opinion or do not understand the question.

33. My educational background prepared me with the skills and information I need to achieve success in this course.

34. In my own judgment, what I am being asked to learn in this course is important.

35. Overall, I tried to do my best to meet the requirements of this course.

36. The single most important factor determining the grade I expect to receive in this course has been:

A. my ability
B. my effort
C. the instructor's teaching ability
D. how difficult (or easy) the course was
E. the other students in the course
F. mainly luck

37. In my program, this course is:

A. required - AND in my major area of study
B. required - BUT NOT in my major area of study
C. elective - AND in my major area of study
D. elective - BUT NOT in my major area of study
E. other (e.g., non-credit or audit)

38. My class is:

A. freshman
B. sophomore
C. middler (for five year and/or 'co-op' programs)
D. junior
E. senior
F. graduate student

39. My overall gradepoint average is: (first quarter freshmen use high school overall g.p.a.)

A. 1.00 - 1.75
B. 1.76 - 2.25
C. 2.26 - 2.75
D. 2.76 - 3.25
E. 3.26 - 4.00

40. I expect to receive a grade closest to:

A. A
B. B
C. C
D. D
E. F or U (fail or unsatisfactory)
F. S (satisfactory, pass)

YOUR WRITTEN COMMENTS ARE ALSO WELCOME !!

Use a sheet of blank paper to write any comments you may have about your instructor, this course, or the TCEP questionnaire. Thank you for participating.

SUMMARY OF FACTOR ANALYSES OF THE

TEACHER-COURSE EVALUATION PROJECT (TCEP)

STUDENT RATINGS QUESTIONNAIRE

This Table presents a composite of over 30 analyses from a total sample of 2380 courses (n = 48,500 students). Analyses were completed at various times as the sample was gathered; used both individuals and classes as units of analysis; subdivided the data by class level, GPA level, instructor rating level, and sample quality (e.g., a special analysis of classes with fewer than five responses and/or less than 50% response rate).

In all these analyses, the results were literally identical. The only variations were: 1) the occasional division of the combined feedback and testing factor into two, separate factors; and 2) the occasional reordering of the factors (e.g., the feedback factor sometimes appeared before the factor containing general, course ratings and sometimes appeared after the course factor).

The Table presents the factors with their TCEP items by number. Please refer to the TCEP questionnaire for the sepcific item wording. Factor loadings, reliabilities (Chronbach 'alphas'), and %s of variance accounted for by factors are representative of the set of analyses rather than any one, specific analysis.

FACTOR	ITEMS	LOADINGS	RELIABILITY	% var.
Instructor	1-14, 21, 22, 31	.65 -.80	.93	50
Course	25-28, 30, 32	.55 -.80	.86	6
Feedback & Testing	15-20	.45 -.79	.75	5
Workload & Difficulty	23-24	.82 -.92	.75	2

NOTES: 1) Some items loaded on more than one factor but the differences in loadings made factor assignment simple. The overall instructor item (31) loaded strongly on both the instructor and the course factors but regularly loaded more heavily on the instructor factor;

2) Item # 29 was invalid and is not included above

ATTACHMENT B

THE REVISED MSLQ QUESTIONNAIRE

AND

THE ORIGINAL AND REVISED ATTRIBUTION

ITEMS AND SCALES

M.S.L.Q. .... Pintrich et. al., [illegible]
survey of attitudes, motivation, study habits/skills

1. I prefer course work that is challenging so that I can learn new things.
2. If I want to do get good grades in my courses, it depends on what I do.
3. Compared with other students in my classes, I think I have excellent writing skills.
4. I usually like the subject matter of my courses.
5. I think that what I learn in one course, I can use in other courses.
6. I believe I will receive excellent grades in most of my courses.
7. I'm certain I can understand the most difficult material presented in the readings from my courses.
8. Getting good grades is my main goal in my courses.
9. When I take a test I think a lot about the items that I can't answer.
10. It is my own fault if I don't do well in my courses.
11. It is important for me to learn the material in my courses.
12. Compared with others in this class, I think I have excellent study skills.
13. I'm confident I can learn the basic concepts taught in my courses.
14. If I can, I want to get better grades than most other students.
15. If I get good grades in my classes, it is because of the instructors' teaching skill.
16. When I take tests, I think of the consequences of failing.
17. Compared with others in my courses, I think I'm a good student.
18. I prefer course work that arouses my curiosity, even if it is difficult.
19. I am usually quite intersted in the content of my courses.
20. If I don't do well in my courses, it is because the instructors aren't doing a good job of teaching.
21. I have an uneasy, upset feeling when I take an exam.
22. I'm confident I can do an excellent job on the assignments and tests in my courses.
23. I expect to do well in my courses.
24. My main goal in this course is to learn a great deal about the subject.
25. I think the material in my courses is useful for me to learn.
26. When I have the opportunity, I choose course assignments that are challenging to me even if they don't guarantee a good grade.
27. Compared with others in my courses, I think I have a good background in the course content.

28. If I get poor grades in my courses, it is because the instructors don't like students like me.

29. Understanding the subject matter of my courses is very important to me.

30. If I want to do well in my courses, it will depend on how hard I try.

31. I'm certain I can master the skills being taught in my courses.

32. If I do well in my courses, it's due to the easy grading system.

33. I prefer easy and familiar course material so I can get good grades.

34. Compared with other students in my courses, I think I will do well.

35. When I take a test I think about how poorly I am doing compared with other students.

36. It is important for me to get good grades to improve my career prospects.

37. I'm confident I can understand the most complex material presented by my instructors.

38. If I get poor grades, it is because I didn't try hard enough.

39. I think my reading skills are excellent compared to other students.

40. When I study for a test, I try to remember as much detailed information as possible.

41. I often find that I don't spend very much time on my courses because of other activities.

42. When studying, I try to determine which concepts I don't understand well.

43. When confronted with difficult material or problems, I try to think up possible solutions and then check them out.

44. When I become confused about something I'm reading, I go back and try to figure it out.

45. When I take notes, I try to write down as much as possible of what the instructor says.

46. I make good use of my study time.

47. If course readings are difficult to understand, I change the way I read the material.

48. I have difficulty identifying the important points in my readings.

49. When studying for a test, I read and reread my class notes and the course readings.

50. When a theory, interpretation, or conclusion is presented, I try to decide if there is good supporting evidence.

51. I work hard to get a good grade even when I don't like a course.

52. I memorize definitions when studying for my courses.

53. I try to do course work on my own, without help.

54. I treat course material as a starting point and try to develop my own ideas about it.

55. I find it hard to stick to a study schedule.

56. When I study for an exam, I pull together information from different sources such as lectures, readings, and discussion.

57. Before I study new material thoroughly, I often skim it to see how it is organized.

58. I ask myself questions to make sure I understand the material I have been studying.

59. I try to adapt my studying and learning style to the instructor's requirements and teaching style.

60. When I study for a test, I copy my notes over.

61. I try to identify students in class whom I can ask for help if necessary.

62. If course work is difficult, I give up or only study the easy parts.

63. When I study a topic, I outline the material to help me organize my thoughts.

64. I make simple charts, diagrams, or tables to help me organize or summarize the course material.

65. I have trouble taking notes unless lectures are well organized.

66. When reading, I try to relate the material to what I already know.

67. I have a regular place set aside for studying.

68. I try to play around with ideas of my own related to what I am studying in my courses.

69. I write brief summaries of the main ideas in my lecture notes.

70. When reading for a course, I make up questions to help focus my reading.

71. I try to understand course material by making connections between the readings and the concepts from the lectures.

72. I make sure that I keep up with weekly readings and assignments.

73. I work on practice exercises and end-of-chapter questions even if they are not required.

74. I attend class regularly.

75. I memorize key words to remind me of important concepts on a test.

76. When I study, I practice saying the material to myself over and over.

77. I often find myself questioning things I hear or read in course to decide if I find them convincing.

78. When I study, I set goals for myself in order to direct my activities in each study period.

79. I ask the instructor to clarify concepts I don't understand well.

80. In lectures, I make use of cues such as what is written on the board and voice intonations to alert me to important ideas.

81. I try to apply ideas from course readings to other class activities such as lectures and discussions.

82. I rarely find time to review my notes or readings before an exam.

83. When I study, I try to think through a topic and decide what I am supposed to learn from it, rather than just reading it over.

84. When I write a paper or do a project, I usually include some of my own ideas.

85. I usually study in a place where I can concentrate on my course work.

86. When lecture material is difficult, I go back over my notes and fill in missing ideas and concepts.

87. When underlining or taking notes on course readings, I concentrate only on the most important points.

88. I try to relate ideas in one subject to those in other courses whenever possible

89. I rarely see any relationships between material covered in my courses and other aspects of my life.

90. When studying for an exam, I often explain the information to a friend or classmate.

91. When I study a topic, I try to make everything fit together.

92. If I get confused taking notes in lecture, I make sure I sort it out as soon as possible after class.

93. I often find that I have been reading for class but don't know what it was all about.

94. When I study, I try to remember as much detailed information as possible.

95. I try to develop my own understanding of most topics rather than to only rely on the instructor's ideas.

96. In my courses, I concentrate on memorizing facts and concepts from the lectures and readings.

97. During lectures I often miss important points because I am thinking of other things.

98. I believe that getting help with my course work would be admitting my lack of ability.

99. I believe that people would think less of me if I got help in order to succeed in my courses.

100. I would think less of myself if I couldn't do my course work without help.

ATTACHMENT C

THE TCEP INSTRUCTOR'S SELF-EVALUATION QUESTIONNAIRE

MSLQ ORIGINAL ATTRIBUTIONAL ITEMS AND RESPONSE SCALE
AND
PARAPHRASED ITEMS AND RESPONSE SCALE

MSLQ 2.. If I want to get a good grade in this course, it depends what I do.
Study 2.. If I want to get good grades in my courses, it depends on what I do.

MSLQ 10.. It is my own fault if I don't do well in this course.
Study 10.. It is my own fault if I don't do well in my courses.

MSLQ 15.. If I get a good grade in this class, it is because of the instructor's teaching style.
Study 15.. If I get good grades in my classes, it is because of the instructors' teaching skill.

MSLQ 20.. If I don't do well in this course, it is because of the instructor.
Study 20.. If I don't do well in my courses, it is because the instructors aren't doing a good job of teaching.

MSLQ 28.. If I get a poor grade in this class, it is because the instructor doesn't like students like me.
Study 28.. If I get poor grades in my courses, it is because the instructors don't like students like me.

MSLQ 30.. If I want to do well in this course, it will depend on how hard I try.
Study 30.. If I want to do well in my courses, it will depend on how hard I try.

MSLQ 33.. If I do well in this course, it's due to the easy grading system.
Study 32.. If I do well in my courses, it's due to the easy grading system.

MSLQ 39.. If I get a poor grade in this course, it is because I didn't try hard enough.
Study 38.. If I get poor grades, it is because I didn't try hard enough.

MSLQ scale:

Very true of me X X X X X Not at all true of me

Study scale:

Very much like me...Somewhat like me...More like, than unlike me

More unlike, than like me...Somewhat unlike me...Very much unlike me

---

TCEP
Instructor's Questionnaire

Office of Instructional Development and Evaluation

SECTION I: THE INSTRUCTOR

Use the scale below to indicate how often statements 1 through 22 are true about YOU as an instructor for THIS class.

A = almost always
B = more than half of the time
C = about half of the time
D = less than half of the time
E = almost never or
F = this item DOES NOT apply to this course

As the instructor, I

1. communicate the purposes of class sessions and learning activities.
2. speak clearly and audibly when presenting information.
3. present information at a rate students can follow.
4. indicate which information is essential and which is minor.
5. use examples and illustrations which help clarify the topic being discussed.
6. show important relationships among the topics being treated in this course.
7. inspire excitement or interest in the content of this course.
8. relate course material to relevant, real life situations when possible.
9. ask questions which challenge students to think.
10. provide opportunities for students to bring up or discuss issues related to the course.
11. develop an atmosphere of respect and trust in the classroom.
12. manage classroom discussions so that they are a useful part of students' learning experience.
13. present activities and materials appropriate for students' levels of experience and ability.
14. clear up points of confusion for students.
15. provide assistance on an individual basis outside of class if students need it.
16. give students regular feedback about how well they are doing in the course.
17. state in advance precisely how student performance is to be evaluated.
18. give tests (exams) that are fair and accurate measures of course skills, concepts, and information as taught.
19. return exams and assignments quickly enough to benefit students.
20. suggest specific ways students can improve their performance in this course (when needed).
21. make effective use of class time.
22. am punctual in meeting class and office hour responsibilities.

36. The primary (most important) mode of instruction for this course is:

A. lecture (by instructor) and examination and/or papers
B. group discussion with team or collaborative projects
C. laboratory, performance, or other "hands on" in-class activiities
D. clinical, field work, or practicum off-campus activities
E. independent student research with individual supervision
F. presentations of invited lecturers, videotapes, films, etc with discussion, papers, and/or exams.

37. The main method used for evaluation of student performance in this class is:

A. tests and/or exams only
B. papers and projects only
C. papers and/or projects and tests and/or exams
D. performances, presentations, or demonstrations
E. non-print projects (e.g. constructions or fabrications for engineering; paintings, photographs, drawings for fine arts)
F. assessment of quality of participation in class, groups, or team-work.

38. Compared to other groups of students you have taught, how would you rate this group?

A. among the best
B. better than usual
C. about the same as usual
D. worse than usual
E. among the worst

SECTION IV: Instructional Objectives

Use the scale below to indicate the emphasis you placed in this class on the objectives described below.

A. = very heavy emphasis
B. = moderate emphasis
C. = some emphasis
D. = slight emphasis
E. = no emphasis

Students:

39. gaining factual knowledge (terminology, classifications, methods, trends).
40. learning fundamental principals, concepts, or theories.
41. improving logical thinking, problem-solving, and decision-making.
42 developing specific psychomotor (kinesthetic, manipulative, or manual) skills.
43. developing skills in organizing ideas and presenting them in written form.
44. opportunities to be creative (imaginative, inventive, original).
45. developing a favorable attitude toward the subject matter.
46. developing skills for leadership, teamwork, and group work.

29. The course goals or objectives as you presented them were met.

A. strongly agree
B. agree more than disagree
C. agree and disagree, uncertain
D. disagree more than agree
E. strongly disagree

30. Overall, how much do you feel students learned in this course?

A. an exceptional amount
B. more than usual
C. about as much as usual
D. less than usual
E. almost nothing

31. What is your overall rating of your teaching effectiveness (in this course/section) compared with other college instructors?

A. one of the most effective
B. more effective than most
C. about average
D. less effective than most
E. one of the least effective

32. What is your overall rating of this course?

A. one of the best
B. better than average
C. about average
D. worse than average
E. one of the worst

SECTION III: OTHER INFORMATION

Please answer the following items:

33. Your rank: (leave blank if not applicable)

A. full professor (including emeritus)
B. associate professor
C. assistant professor
D. instructor
E. lecturer (including adjunct, senior, and part-time)
F. teaching assistant

34. Your years of experience teaching

A. less than one
B. one to two
C. more than two but less than five
D. five or more but less than eight
E. eight or more but less than twelve

35. Years of experience, con't:

A. more than twelve but less than twenty

Compared to other college courses at this level (in this or similar disciplines) ...

23. **The workload for this course is**

    A. one of the lightest
    B. lighter than average
    C. about average
    D. heavier than average
    E. one of the heaviest.

24. **The difficulty level of the course activities and materials is**

    A. extremely easy
    B. easier than average
    C. about average
    D. more difficult than average
    E. extremely difficult.

25. **The textbook(s) and readings used in this course are**

    A. among the best
    B. better than average
    C. about average
    D. worse than average
    E. among the worst.

26. **Rate how well the syllabus, course outline, or other overviews you provided may have helped students to understand the goals and requirements of this course.**

    A. unusually well
    B. better than usual
    C. about as well as usual
    D. worse than usual
    E. not at all or no such information was provided.

27. **Rate the usefulness of the outside assignments (writing, reports, and special projects) in helping students to learn**

    A. extremely useful
    B. more useful than average
    C. of average usefulness
    D. less useful than average
    E. almost useless
    F. outside assignments were not a significant part of instruction

28. **Rate how well the various elements of the course (e.g., class activities, textbooks/readings, and outside assignments) worked together in helping students learn.**

    A. very well
    B. better than average
    C. about average
    D. worse than average
    E. very poorly